

REMARKS

The Office Action dated April 21, 2005 has been received and carefully noted. The above-noted amendments to the specification are submitted. Applicants respectfully assert that no new matter is being presented, and approval and entry are respectfully requested. Claims 1-15 are respectfully resubmitted for consideration.

In the Office Action, at page2, the drawings were objected because of minor informalities. The Office Action objects to the drawings because reference signs found in the specification are not provided in the drawings. Upon review, Applicants have removed the reference signs in question from the specification. Applicants respectfully assert that all of the reference signs mentioned in the specification are provided in the drawings and Applicants respectfully request reconsideration and withdrawal of the objections to the drawings.

In the Office Action, at page 2, claims1-15are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Merchant et al.* (U.S. Patent 6,625,146) in view of *Denio et al.* (U.S. Patent No. 6,625,146). The rejection is traversed and reconsideration is requested.

Claim 1 recites a network switch for network communications. The network switch includes a first data port interface supporting a plurality of data ports transmitting and receiving data at a first data rate, a second data port interface supporting a plurality of data ports transmitting and receiving data at a second data rate, a CPU interface configured to communicate with a CPU, an internal memory communicating with the first data port interface and the second data port interface, a memory management unit including an external memory interface for communicating data from at least one of the

first data port interface and the second data port interface and an external memory and a communication channel communicating data and messaging information between the first data port interface, the second data port interface, the CPU interface, the internal memory, and the memory management unit. One data port interface of the first data port interface and the second data port interface includes a fast filtering processor filtering the data coming into the one data port interface and taking selective filter action based upon a filtering result. The one data port interface further includes a flow monitor for monitoring flows of data through the network switch, where a flow of the flows of data is defined by a combination of a source address and a destination address for a portion of the data passing through the network switch. Claims 2-9 depend from claim 1.

Claim 10 recites a method of handling data packets in a network switch. The method includes the steps of placing incoming packets into an input queue, applying the input data packets to an address resolution logic engine, performing a lookup to determine whether certain packet fields are stored in a lookup table and determining index values for the input data packets, filtering the incoming packet through a fast filtering processor in order to determine what specific actions should be taken to modify the packet for further handling and discarding, forwarding, or modifying the packet based upon the filtering. The index values are used by the fast filtering processor to rapidly find an indexed specific action of the specific actions. Claims 11 and 12 depend from claim 10.

Claims 13 recites a network switch for handling data packets including means for placing incoming packets into an input queue, means for applying the input data packets

to an address resolution logic engine, means performing a lookup to determine whether certain packet fields are stored in a lookup table and means for determining index values for the input data packets, means for filtering the incoming packet through a fast filtering processor in order to determine what specific actions should be taken to modify the packet for further handling and means for discarding, forwarding, or modifying the packet based upon the filtering. The index values are used by the fast filtering processor to rapidly find an indexed specific action of the specific actions.

As discussed in the present specification, the present invention enables the filtering of packets based on packet flows. It is respectfully submitted that the prior art of *Merchant et al.* and *Denio et al.* fails to disclose or suggest the elements of any of the above-discussed claims. Therefore, the prior art fails to provide the critical and unobvious advantages discussed above.

Merchant et al. is directed to a method and apparatus for operating a network switch in a CPU-less environment. The switch is designed to receive an initialization signal and an internal rules checker begins to process data frames based on source and destination addresses. The Office Action alleges correspondences between disclosed attributes of the switch in *Merchant et al.* and the elements of the claims. The rejection acknowledges that *Merchant et al.* fails to disclose a fast filtering processor filtering data coming into one data port interface and taking selective filter action based upon a filtering result and thus also cites *Denio et al.*

Denio et al. is directed to a switch that reduces broadcast traffic in a network. The rejection alleges that the forwarding module of *Denio et al.* is equivalent to the fast

filtering processor claimed. However, the forwarding module “that allows the switching device 200 to filter out all broadcast traffic for specified ports.” (Column 4, lines 63-65). Thus, filtering is only performed when a packet is destined for specified ports, as opposed to based on specific fields in the packet, as discussed and claimed in the instant invention.

Claim 1 recites, in part, “a flow monitor for monitoring flows of data through the network switch, where a flow of the flows of data is defined by a combination of a source address and a destination address for a portion of the data passing through the network switch.” Both *Merchant et al.* and *Denio et al.* are silent with respect to the use of flows, where the definition of flows is recited in claim 1. Additionally, *Denio et al.* might arguably provide “port-based” filtering, but does not provide “packet-based” filtering. In other words, a packet belonging to a particular flow, i.e. with a particular destination address and a particular source address, may or may not be modified based on the source address. For at least this reason, Applicants respectfully assert that *Merchant et al.* and *Denio et al.* fail to teach all of the elements of claim 1 and the rejection thereof is improper and should be withdrawn. For at least the same reason, claims 2-9, dependent on claim 1, are also respectfully asserted to be allowable over the cited prior art.

Claims 10 and 13 recite, in parts, “determining index values for the input data packets” and “means for determining index values for the input data packets”, respectively. Thereafter, the index values are used by the fast filtering processor to rapidly find an indexed specific action of the specific actions. Neither *Merchant et al.* nor *Denio et al.* teaches or suggests determining and using index values to filter packets. The section of *Denio et al.* that is apparently relied upon in the rejection is column 5,

lines, 35-65, where heuristics used to include or exclude packets are discussed. However, no indexing is disclosed and no index values are used in any filtering decision. For at least this reason, Applicants respectfully assert that *Merchant et al.* and *Denio et al.* fail to teach all of the elements of claims 10 and 13 and the rejections thereof are improper and should be withdrawn. For at least the same reason, claims 11, 12, 14 and 15, dependent on claims 10 and 13, are also respectfully asserted to be allowable over the cited prior art.

It is further submitted that each of claims 1-15 recite subject matter which is neither disclosed nor suggested in the cited prior art. It is therefore respectfully requested that all of claims 1-15 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Kevin F. Turner', written over a horizontal line.

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